AMENDMENTS TO THE SPECIFICATION:

Page 1, amend paragraph [0002] as:

[0002] Lighting control systems are important facilities for modern theaters. Lighting control systems are used to create or enhance the atmosphere of a live performance by varying the luminosity of color lights. However, as the earlier lighting control systems are usually manual, it requires the light operator to perform the real-time control as the show proceeds. It is more difficult, and prone to mistakes that may ruin the show. In addition, as the specifications of many lighting systems are different, it increases the ~~difficult~~ difficulty of the lighting control.

Pages 1-2, amend paragraph [0003] as:

[0003] DMX-512 was defined in 1986. Since its emergence, DMX-512 becomes [[as]] one of the most commonly adopted interfaces in the industry. DMX-512 provides the light operators with [[a]] the convenience that was unprecedented in earlier lighting control systems. In general, a DMX-512 lighting control system, as shown in figure 1, comprises a DMX controller 101, a cable 102, and a plurality of light bulbs 111. the cable 102 is used to connect the DMX controller 101 and a plurality of light bulbs 111. The cable 102 can also transmit the control signals issued by the DMX controller 101 to the light bulbs 111. Upon receiving the control signals, the light bulbs 111 will turn on, turn off, or adjust their color or luminosity according to the control signals. In this type of lighting system, each light bulb 111 is given a fixed address (indicated as 1, 2, 3, ..., N ~~as1, 2, 3,...N~~ in figure 1). The DMX controller 101 uses the fixed address to identify and

address a specific light bulb 111. When using the DMX-512 lighting control system, the light operator needs to program the DMX controller 101 in advance. The programming comprises sequencing and setting the color, luminosity, and the timing of each light bulb 111, so that the entire lighting sequence is stored in the memory inside the DMX controller 101. During the show, the DMX controller 101 can repeatedly carry out the pre-programmed lighting sequence.

Page 2, amend paragraph [0004] as:

[0004] However, this type of lighting control system suffers from the lack of flexibility because each light bulb 111 must be individually set with a unique address for [[their]] its identification. Dynamic setting of a lighting sequence during the show is often difficult. Its application is further restricted because DMX-512 system does not provide an interface for video or computer animation inputs.

Page 3, amend paragraph [0007] as:

[0007] The objective of the present invention is to provide a digital lighting control system with interfaces for transforming video input and VGA input, as well as interface for standard DMX-512 protocol. Therefore, the present invention can be used to control both lighting systems with standard DMX-512 and lighting systems that require neither pre-programmed nor fixed address for light bulbs or dots. In other words, the present invention can be used in controlling standard ~~DMX-512~~ DMX-512 lighting systems and full-color dot-matrix systems, so that the light systems can be more versatile.

Page 4, amend paragraph [0014] as:

[0014] The pre-sequenced coordinates table 308 stores the coordinates of lighting bulbs or dots in a preset sequence. The microprocessing unit 309 [[read]] reads the contents of the pre-sequenced coordinates table 308. The coordinates data in the table 308 can be downloaded from the RS-232 serial, parallel port, USB or IEEE1394, or, alternatively, from memory devices such as ROM, EPROM, EEPROM, flash or other memory cards. The coordinates data can also be input from a keyboard (not shown). The microprocessing unit 309 reads the coordinates in the table in a sequential order, and finds the corresponding lighting data of that coordinates in the lighting data area 307 of the memory 305. Finally, the microprocessing unit 309 outputs the lighting data 301. The format of the output 310 can be either standard DMX-512 that requires a fixed address, or a serial data that does not require fixed address.

Pages 4-5, amend paragraph [0015] as:

[0015] The present invention further comprises a pixel sharing algorithm for increasing resolution. The pixel sharing algorithm is to compute, with a mathematical formula, the lighting data of a lighting bulb or dot in combination with the lighting data of neighboring bulbs or dots. For example, when the lighting bulb or dot at the coordinates (3,3) is selected, its lighting data can be computed with the following mathematical formula:

$$\text{Red R Data} = A(R_{3,3}) + B((R_{2,2}+R_{3,2}+R_{4,2}+R_{4,3}+R_{4,4}+R_{3,4}+R_{2,4}+R_{2,3})/8) + C((R_{1,1}+R_{2,1}+R_{3,1}+R_{4,1}+R_{5,1}+R_{5,2}+R_{5,3}+R_{5,4}+R_{5,5}+R_{4,5}+R_{3,5}+R_{2,5}+R_{1,5}+R_{1,4}+R_{1,3}+R_{1,2})/16)$$

$$\text{Green G Data} = A(G_{3,3}) + B((G_{2,2}+G_{3,2}+G_{4,2}+G_{4,3}+G_{4,4}+G_{3,4}+G_{2,4}+G_{2,3})/8)$$

$$+ C((G_{1,1}+G_{2,1}+G_{3,1}+G_{4,1}+G_{5,1}+G_{5,2}+G_{5,3}+G_{5,4}+G_{5,5}+G_{4,5}+G_{3,5}+G_{2,5}+G_{1,5}+G_{1,4}+G_{1,3}+G_{1,2})/16)$$

$$\text{Blue B Data} = A(B_{3,3}) + B((B_{2,2}+B_{3,2}+B_{4,2}+B_{4,3}+B_{4,4}+B_{3,4}+B_{2,4}+B_{2,3})/8) + C((B_{1,1}+B_{2,1}+B_{3,1}+B_{4,1}+B_{5,1}+B_{5,2}+B_{5,3}+B_{5,4}+B_{5,5}+B_{4,5}+B_{3,5}+B_{2,5}+B_{1,5}+B_{1,4}+B_{1,3}+B_{1,2})/16)$$

where 1>=A>=0, and A.B.C. That is, the lighting data of the first-circled dots and the second-circled dots of the selected dot are averaged, respectively. Then, the lighting data of the selected dot, and the averaged values are multiplied with appropriate weights, and added to obtain the lighting data of the selected dot. The weight A> B, and C should all be less than 1, and in [[an]] a decreasing order.

Page 5, amend paragraph [0016] as:

[0016] Figure 4 shows an embodiment of the relationship between the computer screen and the lighting bulb coordinates of the present invention. [[A]] As shown in the figure 4, the computer screen 401 can display the lighting bulbs that are specified by the coordinates stored in the table 402, and in the specified order.

Page 5, amend paragraph [0017] as:

[0017] Compared to the present invention and the prior arts, the present invention has the advantage of having an interface for video input and VGA input, and can also be used with standard DMX-512 interface. Therefore, the present invention of a lighting system controller can be used both in lighting systems with standard DMX-512 interface, and regularly or irregularly arranged lighting systems without pre-defined address. In other

words, the present invention has the versatility to be used in lighting systems with both types of lighting bulbs or dots.